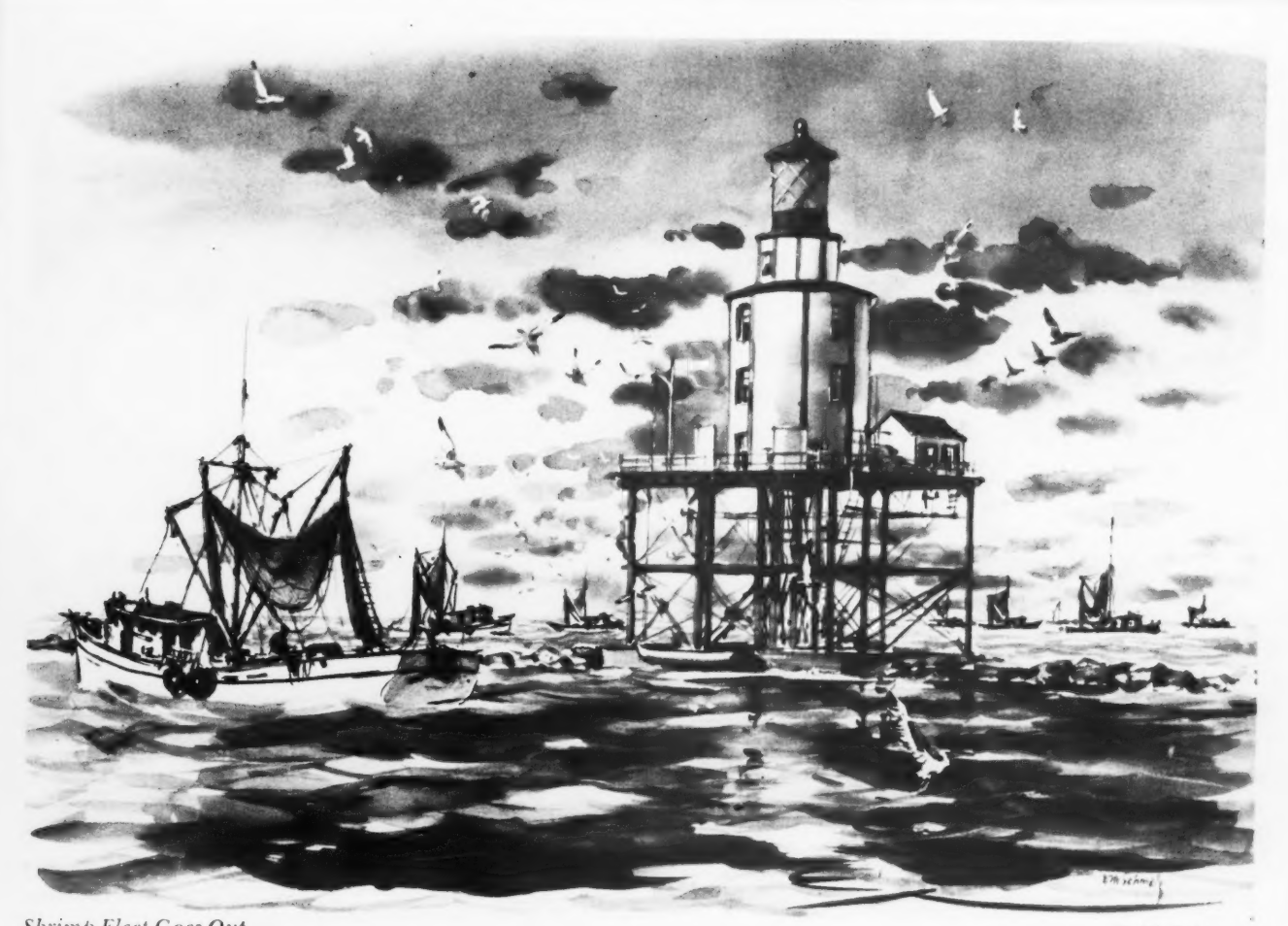

Shrimp Fleet Goes Out — *E. M. Schiwetz*

The HUMBLE WAY

MARCH-APRIL, 1951

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SECURITY

THROUGH INDIVIDUAL PLANNING

ALL was quiet in the lease pumper's cottage, except for the whirr of a sewing machine. The children were in bed; Sam Perkins was reading the paper; and Martha, his wife, was sewing a dress for their daughter.

Sam tossed the paper aside and shifted slightly in his chair. "You know, Martha," he addressed himself to his wife, "here's another story about a big estate all tangled up in court . . . makes the third one I've read about in the last few weeks. Looks to me like folks smart enough to accumulate fortunes and large holdings would also be smart enough to manage them well for the sake of their families."

"What are you driving at, Sam? Planning to arrange your estate?" Mrs. Perkins queried lightly.

"As a matter of fact, that's exactly right," he said.

"What estate?" she asked.

"Look, Martha," he said seriously, "come sit over here by the table and I'll show you what I mean. With the help of Humble, I've accumulated for you and the children much more of an estate than you think . . . Hand me that pencil, please."

Sam explained to his wife that he had had his curiosity aroused when he read about one of those cases several weeks earlier. He had consulted the Company Employee Relations man when he was over to the Division Office a week ago and had gone over the details of his savings and insurance.

"Bet you'll be surprised by these figures, Martha, and by the whole plan."

"I probably will. You know I'm not very good at figures."

Sam started with the basic facts. "You know that I rounded out my 20 years with Humble last month, about the same time I reached 45. And you know that my salary is about $350 a month. You also know, because I can tell by the expression on your face when you see my check stub, that deductions are made every pay day for Social Security and once a month for Group Insurance and for Annuities. You also know about the $5,000 insurance policy I have on the outside."

"This had better be good, Sam, because it is getting involved."

"I can explain it all, Martha. Just give me a chance. Over and above the things I've mentioned, there are Free Death Benefits that the Company pays for. I believe they call them Survivor Benefits now."

"Must we talk about death benefits, Sam?"

"Let's be practical, Martha. I'm going into everything to show you what's been done for you and the children in case I should die before my retirement time. I hope as strongly as you that I live to enjoy a ripe old age."

Sam began with Survivor Benefits. He explained that Humble's plan provides benefits for survivors of employees with as much as one year's service; that after an employee has worked five years the benefits have increased to a point where his beneficiaries (at his death) receive half his annual pay for 24 months, or a year's salary; that another installment at a half-month's pay is added for every additional year of service above five.

"So, in our case that means if I should die, you would get one-half of my present salary, or $175 a month, for 24 months to cover my first five years with Humble, and for another 15 months to cover the additional 15 years of service. Let's see how much that amounts to . . . 39 months at $175 a month is a total of $6,825.

"Why, Sam, that's wonderful. I never knew we had that, or at least I never understood how it worked out."

"That's why, Martha, I wanted you to sit down and hear me out on this matter. It's something you should know, for your sake and the children's."

Then Sam introduced Social Security benefits. Figuring as he had been shown by the Employee Relations representative, he showed his wife that her Social Security income would be as follows: a cash payment at his death amounting to three times his primary benefit of $80, or $240; continued payment of her own benefit of $56.30 and benefits of $46.90 per month each for the two children until such time as

Diamond bit is one type used to cut cores for study by geologists ("Cores," page 6). Industrial diamonds may be reset in another matrix as their cutting edges wear down.

each child reaches age 18. (Effective date for these benefits under recent Social Security revision is July 1, 1952.)

"That means," Sam continued, "you will get $150 a month Social Security income for five years, until our daughter Marguerite is 18; then you will get $120 a month for six more years until Sam, Jr., reaches 18. From that time on until age 65 you will receive no payments. Beginning at age 65, you will again get the Widow's benefit of $60 a month, if you have not remarried.

"But, Sam, is that Company Survivor Benefit income still going on all this time, too?"

"No, Martha, you remember I said that would be payable to you for 39 months. But, if you feel that you might not need the $175 a month, plus $150 from Social Security, I can request the Company to pay Survivor Benefits to you at $87.50 a month for twice that long, or 78 months. What I'm mainly interested in is that you have a regular monthly income big enough to keep you and the children reasonably comfortable. But I want you to decide how this shall be arranged," Sam said.

After some discussion, they agreed to withhold the final decision until they had reviewed all other benefits.

"Another important part of the estate," Sam began, "is my $6,000 Group Insurance policy with Humble and that $5,000 policy on the outside. These can be left with the Insurance companies earning interest while the Survivor Benefit program and Social Security take care of your needs."

Here again a short discussion led to the conclusion that they would await final decision on how to handle the insurance until all phases of the program had been reviewed.

"What about our stock in the Company?" Martha asked.

"As things stand today, remembering the withdrawals we've made for emergencies, I believe our holdings in Company stock through the Thrift Plan still add up to about $7,400. That would come to you in a lump sum settlement, because it cannot be handled in monthly payments. But, remember, quarterly dividend checks would come in handy," Sam said proudly.

"Gosh, all those items mount up," Martha exclaimed.

"Yes, dear. And now for the final item—my annuity. You see, any time an employee who has been participating in the Annuity & Thrift Plan dies before his normal retirement age of 65, his beneficiaries get the amount the employee has paid in for annuities, plus interest. That's another matter that is handled in a lump sum payment, unless the amount is over $2,000. And if I remember correctly, mine now stands at about $1,500. . . . So now that we've reviewed all of these items, why don't you relax a little while I total them up. Then we'll put our heads together and you tell me how you would like matters arranged."

In a short time Sam announced he had the figures consolidated, and he handed his wife a sheet which looked like this:

Perkins Estate

Survivor Benefits	$ 6,825
Social Security Benefits until Sam Jr. becomes 18	17,880
Humble Group Insurance	6,000
Other Life Insurance	5,000
Thrift Plan (Company Stock)	7,400
Annuity Refund (Employee's Contributions)	1,500
Total	$44,605

"There, Martha, is the estate I was talking about . . . and it isn't something to be taken lightly."

"Indeed it isn't," Martha agreed. "I didn't dream we had all of these benefits and so much protection."

With the totals in hand, Sam then encouraged his wife to help him figure out the best way to spread that amount of money out over the longest possible period of need.

"I don't imagine you'd care to have very much of it paid to you in a lump sum, would you?" he asked.

"Gosh no! I wouldn't know what to do with it. But wait. If everything goes well and you continue in good health, we don't want to be tied down with what we decide here tonight," Martha cautioned.

"Don't have to, Martha. We can change this as our benefits increase and as our needs change. Two years from now; almost any time we like, we can look this over again and fix it to suit you. But right now, let's arrange it as you would want it to be if something happened to me next week."

"I don't like to think about it that way; but, as you say, I suppose that's being practical; so let's start."

First of all, Sam explained, his wife should have a lump sum of money to care for possible doctor and hospital bills, funeral expenses, settlement of current bills, and something to tide the family over during the readjustment period. That could come, as he outlined it, from the $240 Social Security payment; the $1,500 lump sum annuity refund; and, if necessary, from the $7,400 worth of Company stock.

"Why, Sam, that would be over $9,000," Martha exclaimed. "I just wouldn't feel sure of myself handling that much money."

"Actually only about $1,740 of that would be in cash. The Humble stock would come to you in simple share certificates which you could put in the safe box at the bank."

"That's better," Mrs. Perkins heaved a sigh of relief.

"All other items are in money—regular monthly income for you and the children. You've often said you would rather have monthly checks than a large amount, so what amount do you feel would best suit your needs?"

"Probably $225 a month would be plenty for us—if income tax doesn't eat it up," Martha concluded.

"You won't have to worry much about that," Sam replied. "The only taxable portion of that $225 is the amount that comes out of Survivor Benefits."

Sam then proceeded to outline how he could request one of several options of payment of Survivor Benefits. He would request the one-fourth monthly salary basis—$87.50 a month for 78 months, or six and a half years. Adding to that the $150 Social Security payments, the family would receive $237.50 a month until Marguerite reached 18 five years hence. Thereafter, the Survivor Benefit payments would continue for another 1½ years and Social Security

payments would be reduced by $30. "You would then get only $207.50 a month during that 2½ years," he explained.

"Sam, Jr. could work a little after school and on Saturdays, but Marguerite would be in college. I might need some extra money about that period," Martha figured.

"I might suggest that the earnings from Humble stock, accumulated over the five or six years before Marguerite reaches college age, would build an educational fund for her," Sam said.

Martha agreed that such a plan had merit. She also agreed to leave the monthly income at $207.50 until all Survivor Benefits had been paid, and to let the insurance policies begin paying thereafter.

Sam was feeling extra good. Mrs. Perkins had caught the spirit of the discussion: she was telling him how she wanted matters arranged, rather than depending on him.

"Then, dear," Sam went on, "the two insurance policies would begin adding to your monthly income. What should the figure be, say $150 a month? Remember, you still have 3½ years to go on the $120 monthly income from Social Security until Sam Jr. reaches 18."

"No, Sam, that would probably be a little more than necessary. The children could by then be helping themselves more . . . and I would like to see the insurance money stretched out as long as possible."

"Let's say $100 a month, then, from the two policies," Sam suggested. "You would still be getting $220 a month until Social Security payments stopped when Sam Jr. reached 18. At that point, all Social Security payments would stop. You would get no more until you reach age 65. That would leave you only $100 a month."

"Why that isn't bad, Sam. I could always do a little sewing; you know how I like sewing, and the extra money would be welcome. But can you tell me about how long the insurance income will go on at that rate?"

"Probably not exactly, but let's do a little figuring . . . One $6,000 policy and one $5,000 policy . . . $11,000 left at interest for six and a half years, and then payable at the rate of $100 a month . . . That should stretch payments over about 10 to 11 years."

Monthly Income

	Survivor Benefits	Social Security	Insurance	Total
1951-1956 (when Marguerite becomes 18)	$87.50	$150.00	$	$237.50
1956-1957 (when Company Survivor Benefits expire)	87.50	120.00		207.50
1957-1961 (when Sam Jr. reaches 18)		120.00	100.00	220.00
1961-1973 (no Social Security)			100.00	100.00
1973- (Social Security begins at age 65)		60.00		60.00

(This is in addition to lump sum settlements: $240 Social Security; $1,500 annuity refund; and $7,400 Company stock.)

Martha began wondering what her age would be when the insurance income came to an end. Sam, also interested, began adding the figures before him.

"Martha, that does it. The insurance payments extended like that would take you right up to age 65, and you remember I said you would start getting Social Security benefits again then. And, all that time, unless some real emergency came along, you could hold on to the Humble stock and have it to fall back on."

"Sam, I'm glad you asked me to sit and listen to all this. I knew, of course, that Humble has benefit plans for employees, but I never dreamed the plans could mean so much to us . . . But, how will I ever remember all these details?"

"You can't, and neither can I. But I can write it down for you and as a guide for me to set it all up with the Company. Why don't you go on with your sewing for a while and I'll make copies for both of us."

While the sewing machine purred, Sam's pencil sped along over the notebook pages. He was tired, but he felt it should be done now.

Somewhat later, he snapped Martha out of a reverie, a quiet mood of contentment which she was enjoying, with the announcement that he had it all down on paper.

"Here you are dear," Sam said proudly as he handed the itemized summary to Mrs. Perkins.

Mrs. Perkins studied it briefly, remembering most of the major figures from their previous discussion. Then she exclaimed: "Sam, this is simply wonderful. I'm so glad you made me stay with you through all this discussion, and I feel much better about Marguerite's and Sam Jr.'s future."

"I'm happy too, Martha. I actually didn't realize it shaped up so well, even after my discussion with our Employee Relations man."

"I'm just wondering," Martha mused, "wondering if the Franklins, and the Martins, and the Stepics, and others of our friends with Humble have arranged their affairs this way."

"Don't know, Martha, but I've been talking with some of the fellows lately and they don't seem to. Now that we've gone through all this, I think I'll talk it up more. Seems like nearly all of them would want to line up their benefits this way, wouldn't you think?"

"I sure do, and I know all the girls would like to know as much about their own and their children's future as I now do, thanks to your thoughtfulness."

After a short lapse, during which both of them rubbed sleepy eyes and gave sighs of satisfaction, Sam got up and sat on the arm of his wife's chair: "Happy about our estate, dear?"

"Happy and surprised. You'll forgive me, I hope, for that somewhat sarcastic remark I made when you first mentioned estates earlier tonight."

"Certainly, Martha. I couldn't have any ill feeling toward anyone tonight. I'm too pleased with what we've been able to do on a working man's income and the help of a good Company."

Men Against Flames

Baytown Firefighters Know Their Business

AN OIL fire is an unpleasant thing. But, like all unpleasant things, it must be faced and dealt with when it happens. Men in the Baytown refinery are ready to fight fire quickly and effectively, whenever and wherever it breaks out.

Fire, always a hazard, is particularly so in an oil refinery, where flammable vapors are processed under heat and pressure. What, then, keeps Humble's refinery from going up in smoke? Three things: First, Humble men are completely familiar with the equipment they work with. Second, they realize that fire is a constant danger and do everything possible to prevent it. Third, if a fire does break out, they know how to fight it.

Baytown refinery people know how to fight fires because they are *trained* to fight fires. Because of their alertness and prompt action, few fires become serious. Small fires that break out from time to time in the refinery are snuffed out so quickly that even the operator across the street knows nothing about them until they are put out. Major fires at Baytown are rare things.

Where there are so many kinds of oil under so many different conditions, each blaze presents a different set of fire-fighting problems. One basic method of fighting a large fire is to bring the flames under control by shutting off the source of fuel and keeping surrounding equipment cool while the fire burns itself out. Most small fires are put out by smothering with carbon dioxide, steam, or soda-foam. Seldom is a large fire put out immediately, for at times that may be the worst thing to do! For instance, if the fuel feeding the fire is a vapor from a broken line, it could be very dangerous to put out the flames immediately because some vapor would escape to the air and might flash back.

Close teamwork, always important in normal refinery operations, is vitally so in fighting oil fires. To see how this teamwork would spring into action, let us imagine that a large fire broke out at a major unit . . .

The stillman, or man in charge, stepped out of the control house to make his midnight check when he heard the loud whoosh a line makes as it breaks under pressure. Seconds later, a long finger of flame leaped from a nearby furnace through the escaping vapors to the split hot oil line. At a glance, the stillman knew that he had a major fire on his hands and that he would need help.

Almost before he hung up the phone after reporting the fire to the telephone switch board operator, the stillman began checking to see that everything was closed down at the unit, all volatile liquids or vapors in the unit were being pumped out, and smothering steam was being injected into the severed line. Other men on the crew had leaped to their posts and were operating gun-like permanent nozzles shooting water on the flames. Men from adjoining units were busy stringing out hose from the conveniently located hose carts to fire plugs.

In the meantime, the switchboard operator had called the boiler house foreman to blow the fire whistle and was calling all persons needed at the fire. Blasts from the fire whistle were telling workers throughout the plant where the fire was, in a code known to all.

By this time, the whole refinery was alive with action. Crews rushed up in fire trucks; an alerted foamite pump house crew was sending chemical foam solutions through a special pipe system to the scene of the fire; workers picked up over the yard were rushed in to man the hoses.

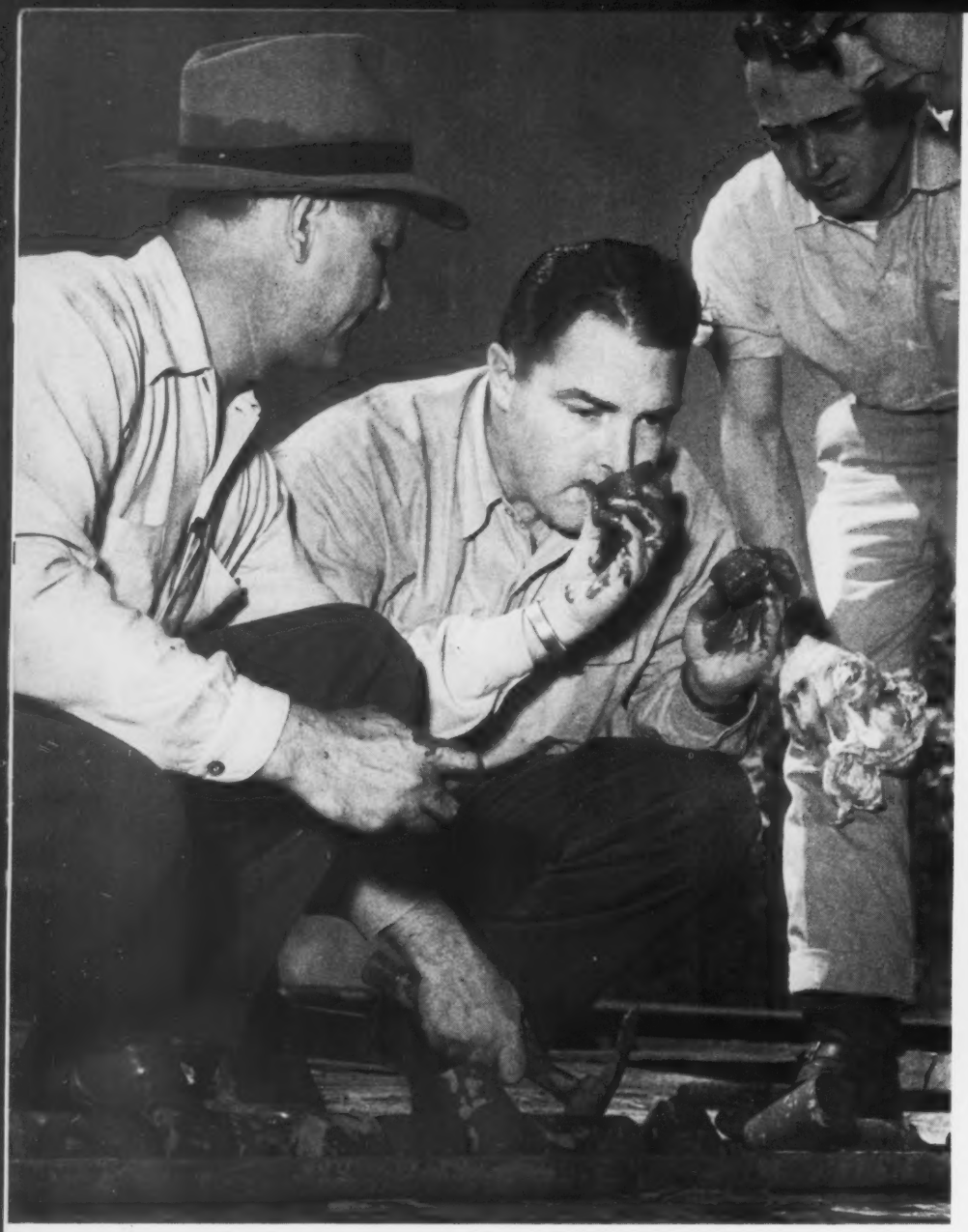
At the fire, streams of water patterned the sky as they played over the superstructure to keep it cool. One of the hose crews moved close to the flames behind a screen of fine water spray, thrown up by a "fog" nozzle, to allow the stillman to close a valve. Foamite hose crews stood by, ready for action.

Suddenly the unexpected happened. A great gush of flaming oil poured from the break and floated on the surface of the water from the fire hoses to an open ditch toward another unit. Quickly the team play and organization took care of the problem. By two-way radio, carried in transportation vehicles in the refinery, a bulldozer was ordered to block the flow of flaming oil by dozing a dam across the ditch. It was only minutes before the ditch was blocked and the fire smothered out by the foamite crew using the soap-suds-like chemical.

Shortly after, the main source of the fire was blanketed with "fog," a fine spray of water. This fire was extinguished before it had burned out because it was a liquid fire, but hose crews continued to pour water into the area for some time after the flames had disappeared to cool the area and keep the hot oil from reflashing. As soon as possible, engineers moved into the damaged unit and began work on restoring it to service.

As a matter of actual record, few fires ever reach the proportions of the one just described as a case sample. Most of them are snuffed out in infancy and safety rules are slanted to prevent even small fires. Whenever any operation or repair requires an open flame, as in arc welding or acetylene burning, an extinguisher is kept handy. Even with these and other safe practices, equipment can fail and fires may result. Baytown refinery is always ready to fight them on an instant's notice.

An artist's conception of a Baytown Refinery fire shows the controlled, well-directed activity of firefighting teams, each with its own equipment and its own job to do.



CORES

Messengers from Below

A PRODUCTION geologist will probably want to *see, feel, smell,* and *taste* a sample of an underground formation before he will stake his reputation on whether or not it will produce oil. Even then he will want to verify his estimate with an electric log, perhaps an analysis of the sample, and maybe a test of the formation's ability to produce. And, because of the myriad personality quirks of the rocks which hold oil, that may not be enough; the final answer will not be known conclusively until the well is completed and the oil turned into the production tanks.

But most often the geologist's key decision rests upon his opinion of the sample—or *core*—after he has *seen* it (what kind of rock?), *felt* it (what about hardness and granular structure?), *smelled* it (gas or oil odor?), and *tasted* it (any salt water?).

If any of the answers are favorable, the core may be quick-frozen, or coated with paraffin, or sealed in a tin can for

Humble geologists smell fresh-cut cores to detect oil and gas odor. Standing by are technicians whose laboratory trailer is on the location. Lower left, geologists compare sections of the core, observe the inclination of the sand beds. Lower center, sharp taps of the pick break up reservoir rock. Lower right, cores are packed in air-tight tins, then shipped to lab for analysis.

preservation until it reaches a core analysis laboratory if a mobile laboratory cannot be called to the rig. Laboratory analysts determine the amount of pore space in the rock which will hold fluids, the percentage of water, gas, and oil which occupies the pore space, and perhaps an index of the ability of the fluids to move through the rock. Each of these is important in determining the amount of oil and gas present, and the possibility of producing them. Later, core analysis reports are used by geologists and petroleum engineers in estimating the volume of oil and gas reserves in a reservoir, in analyzing the reservoir forces and in planning the proper production practices to achieve maximum recovery.

Many of the secrets of an underground formation can be learned by studying a core. And the samples supply the confirming evidence for other tools — the electric log, radioactivity logs, dipmeter surveys, and others. Core verification of the electric log is especially valuable in the first wells drilled in an area, for reading subsequent logs is then easier and more accurate. Today a geologist won't abandon a hole until every possible oil formation has been checked by coring.

Cores are most often cut with a hollow barrel which projects from the center of the bit. As the bit drills on down, a cylinder of the formations in the center of the hole fills the barrel and clips or catchers hold the core within the barrel as it is withdrawn from the hole. The core barrel within the drill collar at the bottom of the hole keeps the core in the best possible condition until it can be removed from the hole.

Today the most widely used method of coring uses a small diameter core-barrel which can be withdrawn through the drill pipe, making it possible to cut several cores without pulling the drill pipe out of the hole. This is the wire line method, so called for the cable used to pull the core barrel out of the hole after the core is cut. Where small cores are satisfactory, the wire-line method is an obvious improvement over conventional coring, for the larger cores cut by the conventional method require removal of the drill pipe. As a result, most conventional coring is limited to shallow exploratory drilling, often in shallow holes drilled only for the purpose of obtaining geological information.

Special circumstances sometimes require a sample from a part of the hole already drilled, calling for a sidewall sampler to gouge a core from selected points along the well bore. Hollow core tubes from one to two inches in diameter are punched into the hole wall by weight of the drill pipe or shot like a bullet to retrieve cores up to five inches long. These cores are especially useful, since they can be obtained at specific places. Frequently, formations missed during regular coring will be sidewall sampled, or interesting formations indicated on the electric log will be checked by sidewall cores. After a reservoir is discovered, sidewall samples may be used to find the exact areas of contact between gas, oil, and water so that the volume of fluids in the reservoir can be calculated.

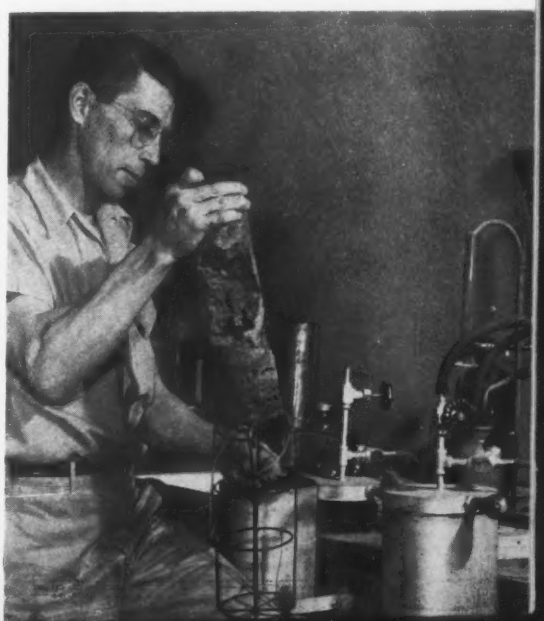
Extremely hard formations, such as the chert, limestone, and dolomite of West Texas, offer short life to wire-line and sidewall coring tools. Special diamond-studded bits are needed to core through these formations, some of which give way only one foot per day to the best of rock bits. Black industrial diamonds, carefully set in a pattern in the doughnut-shaped bit grind the hard rock away to cut a core. Sometimes, the diamond core bits can drill through certain formations faster than regular rock bits. One of these bits may cost several thousand dollars.

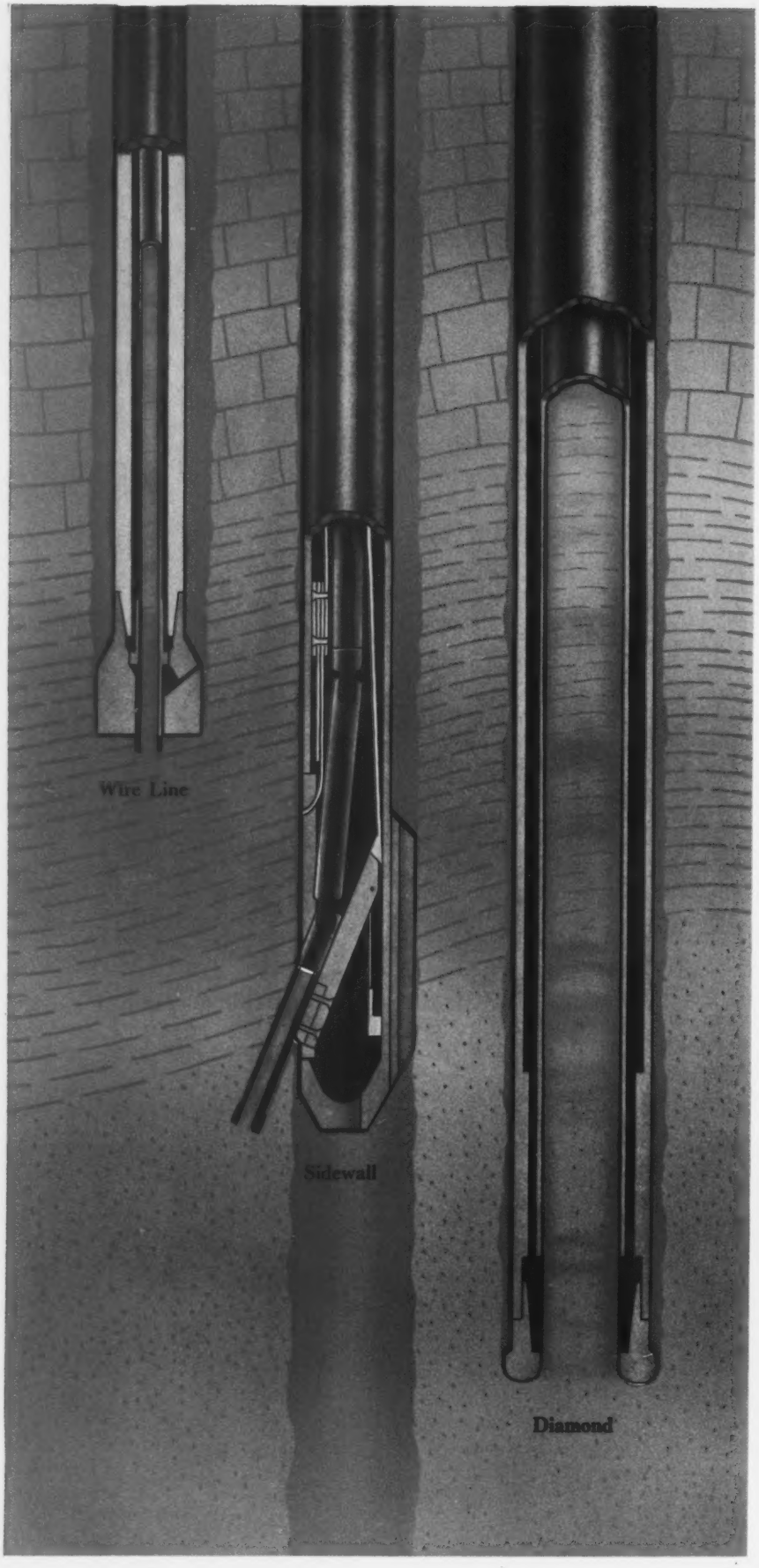
Diamond-core bits cut larger diameter cores, since the bit must be of larger diameter to give more speed to the diamonds as they grind into the rock. This serves as an advantage in obtaining cores up to 4½ inches in diameter and as much as 55 feet long. The large core samples of limestone and dolomite help to simplify the difficult job of analyzing these formations. Much of West Texas' oil comes from these rocks, though often from fractures or crevices rather than from the pore spaces as in sand. Thus, the larger the sample, the more reliable the estimate of the formation.

Coring programs are set up to obtain all the cores needed in each well and throughout a field to assure obtaining enough basic information and yet hold the amount of coring to a practical minimum. Economy is the principal reason for selectivity, since coring approximately doubles the cost of drilling. When coring, drilling is slower and extra time is required for pulling the

Roughnecks "break out" the cutter head of a wire-line core barrel (note teeth).

Lab technician (in trailer at rig) uses distillation tubes which show how much oil and water are in cores. Below, a diamond-cut core is prepared for a re-saturation test, to see how much water can be forced back into the dry core.





cores from the hole. Time is money on a drilling rig and every practical means is taken to make every minute count.

When a wildcat is drilled to explore a new area, the limited geological information available usually requires considerable coring to properly test the prospect. Half the time to drill some wildcats is devoted to coring; thus the higher cost of exploratory wells.

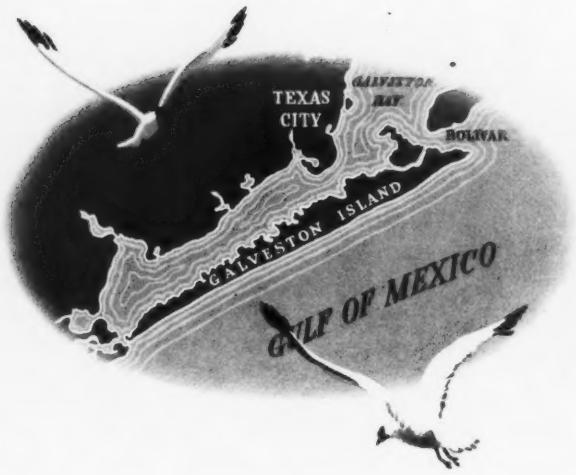
The evolution of coring and core analysis has come a long way, but there is yet room for advancement. Some of the more important milestones of the past have been: development of the first rotary core bit by a French mining engineer in 1863; introduction of coring on a commercial scale in 1916, wire-line coring in 1926, and sidewall coring in the late twenties. Core analysis, begun in the early twenties, has been widely used only in the past few years.

Before the development of coring practices, cable tool drilling was considered to have an advantage over rotary drilling. This was because the samples pounded out by the cable tool bit were brought to the surface after every few feet were drilled. These samples were often so fine, however, that they were useful only for general classification of the formations, and they were only slightly better than the very fine mud-contaminated rotary cuttings. Geologists still check cuttings closely, but they rely heavily upon cores taken at the first sign of possible producing formations. Cable tool core bits are available, but cuttings continue to be the principal source of formation data in cable tool drilling.

Analysis of cores under their reservoir conditions has not yet been developed on a commercial basis, and most core analyses today are subject to variations in accuracy because of the expansion of the core content from reservoir to atmospheric pressure. Analyses are also subject to the variations caused by the flushing action and infiltration of drilling mud, and the escape of gas from the core.

Much of what is known of oil has come from cores — from observation, study, and analysis of all kinds of samples. Each new core adds to the fund of information to help in finding more oil today and in the future.

Three types of coring devices in common use in oil industry are shown in drawing.

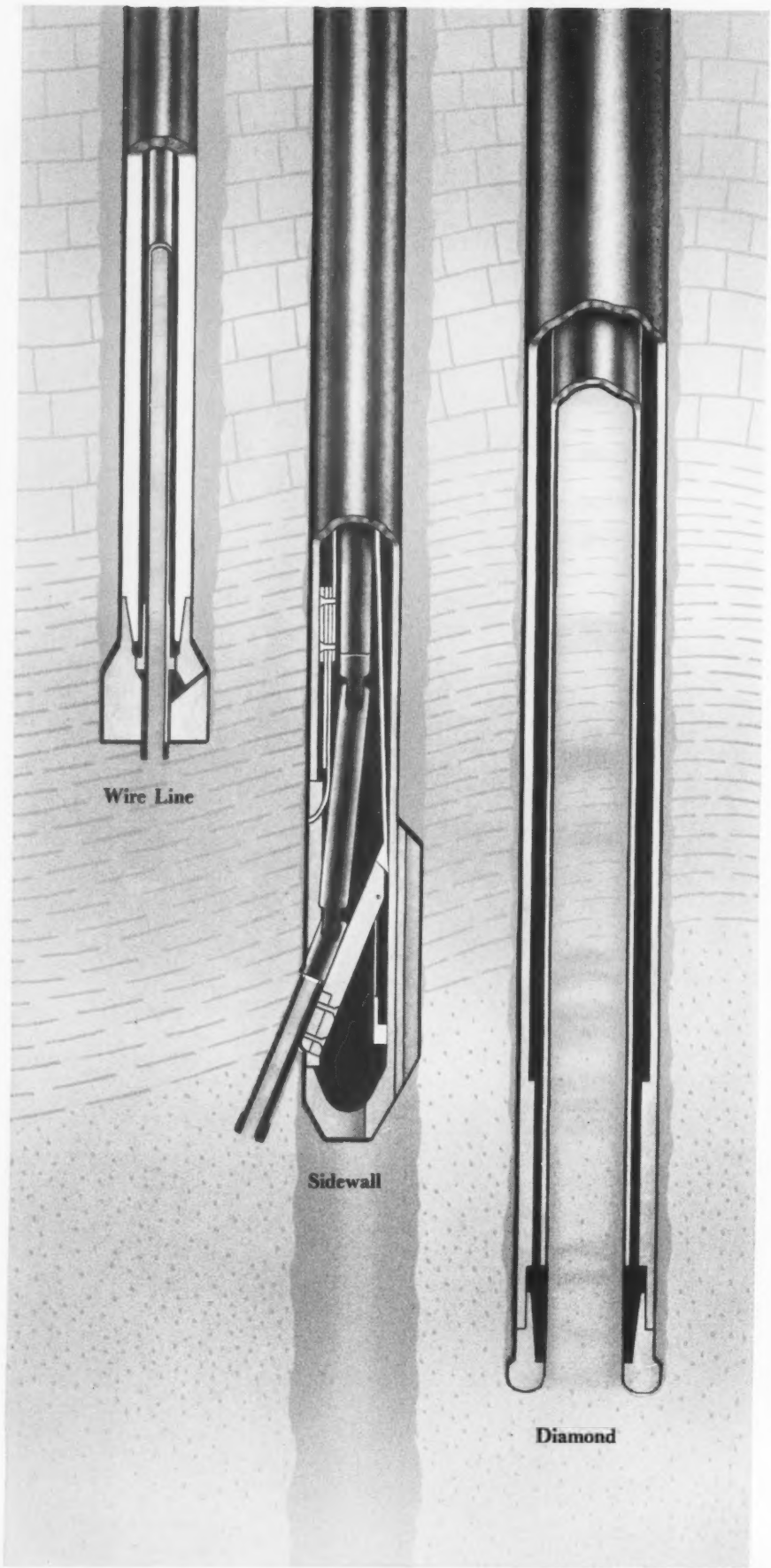


GALVESTON

Isle of treasure and adventure

THE true story of Galveston Island reads like an adventure novel. Every foot of this 30-mile sand bar off the Texas coast has been ripped again and again by hurricanes, scorched by flames, plagued with epidemics, tortured with famine, or reddened with the blood of battle. It is a story of cannibal Indians and pirate gold; of the clash of swords, the twang of bowstrings, and the rattle of musketry. It is a story of black deeds and brave men.

Early in the 19th century, before a permanent settlement had been made, the island's history blazed to a tempestuous height. In this period, the fierce Karankawas, (or Carancahuas), who ate their enemies slain in battle, were pushed back from their hunting and fishing grounds by soldiers of fortune engaged in the struggle against Spanish rule in Mexico. The soldiers' stay was brief. While they were busy with their wars, the famous Jean Lafitte slipped in quietly with his lawless band and took over the island. For a time, Lafitte and his men shared the place with a somewhat more polished group of adventurers under the leadership of Generals L'Allemand and Rigaud, late of Napoleon's Imperial Guard.



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When a wildcat is drilled to explore a new area, the limited geological information available usually requires considerable coring to properly test the prospect. Half the time to drill some wildcats is devoted to coring; thus the higher cost of exploratory wells.

The evolution of coring and core analysis has come a long way, but there is yet room for advancement. Some of the more important milestones of the past have been: development of the first rotary core bit by a French mining engineer in 1863; introduction of coring on a commercial scale in 1916, wire-line coring in 1926, and sidewall coring in the late twenties. Core analysis, begun in the early twenties, has been widely used only in the past few years.

Before the development of coring practices, cable tool drilling was considered to have an advantage over rotary drilling. This was because the samples pounded out by the cable tool bit were brought to the surface after every few feet were drilled. These samples were often so fine, however, that they were useful only for general classification of the formations, and they were only slightly better than the very fine mud-contaminated rotary cuttings. Geologists still check cuttings closely, but they rely heavily upon cores taken at the first sign of possible producing formations. Cable tool core bits are available, but cuttings continue to be the principal source of formation data in cable tool drilling.

Analysis of cores under their reservoir conditions has not yet been developed on a commercial basis, and most core analyses today are subject to variations in accuracy because of the expansion of the core content from reservoir to atmospheric pressure. Analyses are also subject to the variations caused by the flushing action and infiltration of drilling mud, and the escape of gas from the core.

Much of what is known of oil has come from cores — from observation, study, and analysis of all kinds of samples. Each new core adds to the fund of information to help in finding more oil today and in the future.

Three types of coring devices in common use in oil industry are shown in drawing.

GALVESTON

Isle of treasure and adventure

THE true story of Galveston Island reads like an adventure novel. Every foot of this 30-mile sand bar off the Texas coast has been ripped again and again by hurricanes, scorched by flames, plagued with epidemics, tortured with famine, or reddened with the blood of battle. It is a story of cannibal Indians and pirate gold; of the clash of swords, the twang of bowstrings, and the rattle of musketry. It is a story of black deeds and brave men.

Early in the 19th century, before a permanent settlement had been made, the island's history blazed to a tempestuous height. In this period, the fierce Karankawas, (or Carancahuas), who ate their enemies slain in battle, were pushed back from their hunting and fishing grounds by soldiers of fortune engaged in the struggle against Spanish rule in Mexico. The soldiers' stay was brief. While they were busy with their wars, the famous Jean Lafitte slipped in quietly with his lawless band and took over the island. For a time, Lafitte and his men shared the place with a somewhat more polished group of adventurers under the leadership of Generals L'Allemand and Rigaud, late of Napoleon's Imperial Guard.

THE BISHOPS CASTLE
GALVESTON

Snakes and Shipwrecks

Galveston Island has had so many different names that it must have presented quite a problem to early map-makers. It was probably first discovered by Europeans in 1518 when Juan de Grijalva explored the Gulf coast for the Spanish government.

Two years later, the island was visited by Alonzo Alvarez de Pineda, and it is generally thought that Galveston Island was the Malhado (Misfortune) Island on which Cabeza de Vaca and a part of the expedition of Panfilo de Narvaez were shipwrecked in 1528. Whether the San Luis island identified by early Spanish navigators was Galveston Island or Velasco Peninsula (together with present San Luis Island) has not been satisfactorily determined.

It is generally believed that the name San Luis derives from LaSalle's visit to Texas, although there is some evidence that Luis de Moscoso, coasting from the mouth of the Mississippi River to Mexico, gave the name San Luis to present Galveston Island in honor of his patron saint.

Galveston Island for a time was known to Spanish navigators as *Isla Blanca* (White Island). Later some maps give the name of the island as *Isla de Aranjuez* after the summer palace of the Spanish monarchs near Madrid. Jose de Evia, who made a survey of the island, bay, and harbor in 1785, named the bay after Bernardo de Galvez, Viceroy of Mexico. Later, the island took the name of the bay. By many people, however, the island was called *Isla de Culebras* (Snake Island), because in early days it was infested with rattlesnakes. Even the Indians made their camp on a high shell ridge, to keep out of fang's reach of the deadly reptiles.

Several of the earlier names for Galveston Island, especially *Isla de Aranjuez* and *San Luiz,* persisted until the early 19th century.

Pirates and Privateers

Until about 1816, fish-eating Karankawas had Galveston Island all to themselves. They made no permanent camp on the island, but came over from the mainland in frail canoes, using the island as a hunting and fishing ground. In 1816, two prominent soldiers of fortune made their appearance on the scene. They were Don Luis Aury and Francisco Xavier Mina, who sided with Mexico in its revolution against Spain. They and their forces used the island as a base from which to prey on Spanish ships.

In 1817 Aury and Mina sailed on an expedition against the Mexican coast. They quarreled en route over matters of leadership, and the sulking Aury set sail back to Galveston. He found things not quite as he had left them. Sailing into Galveston Bay, Aury saw, to his consternation, that the island had been occupied in his absence by the notorious pirate, Jean Lafitte, who had come up from Barataria, on the Louisiana coast, in search of better "hunting." After one long look at the frowning guns of Lafitte's ships commanding the bay, Aury sailed discreetly away, leaving Galveston in pirate hands.

Lafitte called his settlement Campeachy, or Campeche. In the center of the little empire he had flung up for himself, he built what he called his *Maison Rouge* (Red House). Black snouts of cannon, protruding from the upper story, discouraged mutiny on land and invasion by sea.

Under Lafitte, Galveston "commerce" reached an all-time high in 1818. All that year, the bay was black with pirate ships and prizes taken on the high seas. Raiding craft slipped in and out of the harbor—leaving Galveston empty, returning loaded to the gunwales with loot from luckless merchantmen. Warehouses could not hold the spoils; boxes and bales were piled high on the sandy beaches. Slaves exchanged masters in brisk trading; Lafitte's standard price was a dollar a pound. Gold flowed in a heavy stream, flooding the gambling halls, saloons, and other dens which dotted the island.

Naturally, such "prosperity" attracted others. Their eyes burning bright with gold fever, soldiers of fortune, adventurers, pirates, and riffraff from all over the world converged on Galveston. Among the more elegant of these were some 400 adventurers led by two former officers of Napoleon's Imperial Guard—Generals L'Allemand and Rigaud. Establishing a settlement near the buccaneers, many of the officers and nobler element in the group of newcomers soon joined Lafitte in social diversions offered by the *Maison Rouge*.

Exit Lafitte

By 1819, Lafitte had just about played out his string at Galveston. The sands in the hourglass were running out, and so were his days on the island. Although he had issued strict orders to his men not to fire on United States vessels, one of his captains made the mistake in 1819 of firing on the U. S. cutter *Lynx*. Before the offended commanding officer could register a protest, Lafitte had hanged his disobedient captain, as he calmly put it, "for piracy."

But public sentiment against the pirate and his men rising out of this and similar incidents was not to be all of Lafitte's troubles. A hurricane blasted Galveston, sinking ships, drowning men, collapsing the *Maison Rouge,* and battering most of the settlement into ruins. Famine followed, then trouble with the Indians, leading to the Battle of Three Trees between Lafitte's men and the Karankawas. As if this were not enough, a U. S. cutter arrived with word that Lafitte must leave the island. He and his followers put Campeche to the torch, then sailed southward into history—some say to Yucatan. All that remained to remind people of that turbulent time were the skeleton of the Red House and a few buildings in the French village.

THE MENARD HOUSE
GALVESTON

Enschwetz 51

Base for Texas Navy

Most historians agree that Galveston Island was practically deserted for a year or two after Lafitte left. Between 1822 and 1836, most of the people who visited there went as treasure-hunters, but all they found were Indian relics and a few scattered doubloons.

Early in the 1830's the Mexican Government built a small custom-house on the island. Later, when Texas revolted against Mexico, the Texans used Galveston as a naval base to prevent a Mexican blockade of their coast. The Texas Navy was based at Galveston, as were privateers hired by the Texans to prey on Mexican shipping. For a brief time in 1836, Galveston became the temporary capital of the Texas Republic. President ad interim David Burnet and his cabinet, who had fled from Harrisburg to escape Santa Anna's army, took brief refuge there just before the Battle of San Jacinto.

Permanent Settlement

First plans for a permanent settlement of Galveston began to take shape in 1836, when Col. Michel B. Menard and his associates bought one league and one labor of land (about 4600 acres) from the Republic of Texas. Two years later, the first public sale of town lots was held. The City of Galveston was incorporated in 1839, and by the outbreak of the War Between the States had grown to a sizeable place of some 10,000 people. Between 1839 and 1861, the town's growth is a testament to the courage and tenacity of the settlers. Hardly a year passed without hardships and sacrifices; without new ravages of fire, flood, fever, or famine. But Galvestonians hung on and stayed.

Civil War: Capture and Recapture

On December 25, 1862, after Federal ships had blockaded Galveston for some time, the island finally surrendered to a fleet under Commander William B. Renshaw. But Galveston did not long remain in Federal hands. On New Year's Day, 1863, General John B. Magruder ("Prince John" to his intimates) retook the island for the Confederacy. Bringing up ships "armored" with cotton bales, Magruder routed the Federal forces and restored the Stars and Bars atop Galveston flagstaffs, where they remained until the end of the war.

1865-1900

When U. S. General Gordon Granger took over Galveston on June 19, 1865, he declared on that day that all slaves in Texas were free. Thus was established the annual Negro holiday, "Juneteenth," or Emancipation Day in Texas.

The Reconstruction Period was perhaps kinder to Galveston than it was to some areas in the South. With epidemics of yellow fever finally conquered, trade was expanded and shipping increased steadily. Congress in 1889 made Galveston a deep-water port and improvements were begun on the channel and the harbor. These improvements, costing more than $6 million, were completed in 1896. By 1900, Galveston was a city of some 38,000 people, its foreign commerce brisk and its outlook bright.

The Big Storm

By 1900, Galveston was no stranger to storms. Many times during the 19th Century, fierce winds and waves, brewed in the angry reaches of the Gulf of Mexico, had raged against the island during the "hurricane season" (late summer and early fall). But the mind of man had not dreamed of, and the eye of man had not seen, such awesome fury as the hurricane that battered Galveston into wreckage on Saturday, September 8, 1900. Forgetting all others, natives of the island still speak in hushed tones of that one. They call it simply "The Big Storm."

Beginning about the 4th of September in that fateful year, the Washington weather bureau had told of a hurricane gathering in the Gulf and had cautioned marine craft at Galveston against putting out to sea. The barometer began to fall on September 6th and continued to fall throughout the next day. On September 8th, before the hurricane reached full fury, the barometer had dropped to 28.48 inches, unofficially declared at that time to be the lowest reading in the history of the weather bureau.

Dr. I. M. Cline, local forecast official, and his associates estimated the maximum velocity of the winds to be 120 miles an hour! The anemometer of the weather station had been carried away after it had recorded spurts of more than 100 miles an hour, and the worst was still to come.

Adding to the wind's destruction, mighty waves lashed over the island, pounding everything with pile-driver blows. Bathhouses and homes along the beach were picked up and swept away as if by a giant broom. Scarcely a building on the island was untouched; more than 3600 were completely destroyed. Ships in the harbor and riding at anchor in the Bolivar roadstead became playthings for wind and wave.

The fate of the *Taunton,* a British ship, illustrates the incredible force of the hurricane, which literally blew the 4000-ton steamer "into the next county." By the time the storm hit, every precaution had been taken to secure the *Taunton* with anchors and cables. The ship held at her moorings for some hours before her chains snapped. Then, in the words of an account written shortly after the storm, the vessel ". . . now caught by the two forces of wind and water, acting in concert, was hurled at tremendous speed across the channel, across Pelican Spit, across Pelican Island, up the bay, along the shallows, far up where ocean vessel never went before and probably never will go again, and did not stop until she was dashed head-on to a bank thirty feet high, called Cedar Point, twenty-two miles from deep water!" When the storm struck, the *Taunton* was in Galveston County; when it blew itself out, the ship was in Chambers County!

Other ships met similar fates. One, the *Roma,* broke away and was carried this way and that by vagrant winds before finally being bashed against the railroad bridge that connected Galveston with the mainland. Another, the *Kendal Castle,* was cast up on dry land at Texas City. Huge steamships were sunk, battered, and carried away as if they were toys. Of small craft, hardly a stick or a spar remained. Sunday, September 9, revealed as complete a picture of horror and destruction as any city has had to look upon.

Human life was not made to withstand such violence. Of Galveston's 38,000 people, it has been conservatively estimated that 6000 lost their lives in the storm . . . some say more. The exact total was never known. More than 8000 survivors were left homeless, many of them destitute. Until contact was established with the mainland and a call sent for help, Galveston for a time lived up to its prophetic motto, *Yo Solo* (I Alone), taken from the escutcheon of Count Bernardo de Galvez.

As soon as possible on the 9th, survivors went about the grim business of cleaning up the stricken city. Help came soon, in the form of money, men, supplies, and the Red Cross, with Clara Barton herself in charge. With wreckage cleared away, the dead buried, and order restored, the people of Galveston set about to build a new and better city. A great seawall was built, extending 17 feet above mean low tide, a bulwark that proved its value during another great storm in 1915. This hurricane was so violent that it blew a three-masted schooner in from 100 miles out in the Gulf, lifted the ship over the ramparts, and hurled it into the grounds of Fort Crockett. But the barrier held, and only eight lives were lost. It appeared that the seawall had at last made Galveston safe from its oldest and deadliest enemy, the sea.

Galveston Today

Texas' oldest deep-water port, Galveston enjoys a huge export business built around three main products of the soil: sulphur, wheat, and cotton. The harbor is the world's largest sulphur port, handling more than a million net tons of sulphur every year. Wheat from the nation's gain belt comes here to be shipped all over the world; one grain elevator has a capacity of six million bushels. Common sights on streets near Galveston's wharves are the small, tractor-like vehicles that pull strings of cotton bales behind them.

Fishing, a sport for the casual visitor, is big business for boat-owners and operators of Galveston's "Mosquito Fleet." One of the most colorful segments of the island's industrial scene, these boats leave their docks before dawn and return at dusk, laden with the day's catch of fish and shrimp. On its way in and out of the harbor, the fleet is accompanied by a faithful, if somewhat raucous, escort of screaming gulls. The name "Mosquito Fleet" dates from earlier times, when small sailboats, their shrimp nets flapping in the breeze, swarmed together like mosquitoes.

It is only natural, in a port the size and consequence of Galveston, that local industry and business should be large and brisk. Manufacturing plants on the island employ about 10,000 people and the annual payroll is more than $30 million. Wholesale and retail trade locally bring in more than $100 million a year. Hotels and beach resorts are filled a large part of the year with thousands of tourists and visitors who flock to Galveston's famous surf playgrounds.

Galveston Houses

In sharp contrast with the tall hotels and modern tourist courts which dot the beach at Galveston are the colorful homes farther inland. Here, in the mixed architecture of their dwellings, is a positive clue to the varied natures, nationalities, and tastes of the people who settled Galveston. Rubbing shoulders with French gables are villas whose original builders may have come to this country from sunny Italy. Spotted here and there among typical "Texas" houses are rambling bungalows rich with the flavor of the Louisiana bayous. Occasionally, as one drives along palm-studded esplanades, some jewel of an old Southern plantation home, resplendent with its huge columns, gleams brightly ahead. The Spanish-style *hacienda* is not uncommon, and nearby one may see a structure whose nautical lines reflect the tastes of some seafaring man, perhaps a retired ship's captain.

The moldering remains of the Lafitte House are surrounded by an air of mystery. A many-gabled affair of French architecture, it was probably built by the pirate after

his famous *Maison Rouge* had collapsed under the fury of the 1818 hurricane. It is a gaunt grey skeleton of a place, probably not used since its master sailed away.

The Menard House ("The Oaks") in earlier times was the center of Galveston social life. Bought by a civic interest in 1937, to be preserved as a memorial to the city's founder, "The Oaks" still hold memories of gay balls and parties. The city's first local Mardi Gras celebration was held there in 1853. Col. Menard built his mansion in 1838, bringing its famous Ionic columns and white pine lumber by sailing boat from Maine. Today, it is the perfect picture of an old Southern plantation home.

The Williams House, also built in 1838, is more reminiscent of the gracious life and easy living of the Louisiana bayou country. It has a brick kitchen and a built-in brick oven. Its huge fireplace still remains from a day when some of the cooking was done with crane and pot-hook. Surrounded by palm trees, the white pine lumber and hand-hewn sills of the Williams House have withstood the worst hurricanes the Gulf has offered.

The 3-story Gresham House, home of the Bishop of the Diocese of Galveston, is often called "The Bishop's Castle." Built by a Congressman and Civil War veteran, it is a castle indeed. Above its steep-pitched roof rise minarets and ornamented chimneys. Its architecture follows no single pattern, but is a mixture of many. Delicate wrought-iron balconies and grilles and a mixture of building stones feature the outside of the castle. Inside, it is rich with many kinds of marble and fine woods from all over the world.

If there is any kind of building "typical" of Galveston, it is the house with the raised first floor reached by a short, steep stairway. Perched above the ground, these raised dwellings seem to reflect a gnawing dread that even a 17-foot seawall might not be enough to ward off a sea-demon in its full anger. Along some streets, strings of raised homes, their walk-ups arranged with geometric precision, present a quaint and unusual picture.

Salute to the Pioneers

In the history of Galveston there is much to remind one of the history of all Texas. It is a tale of pioneers choosing a home and refusing to budge from it, in the face of hardships and disasters. Storms could not dislodge them. Fires and floods swept their homes; fevers thinned their ranks; still they built for tomorrow. And finally they conquered their ancient foe, the sea. It is a tale worthy of Texas pioneers.

Small pontoon ferry shown in the middle of the Nueces River transported the many hundreds of truckloads of dirt and shell needed to build up the road which curves through the marsh to the drilling location, upper center.

WILDCAT BY FERRY

Small pontoon craft spans river to make test well possible at hard-to-reach lowland site

MOST wildcat wells are expensive to drill because the bit is sent down through unknown formations, because water and fuel and other essentials have to be brought in, and because so often the locations for such wells are far off the beaten path and hard to get to.

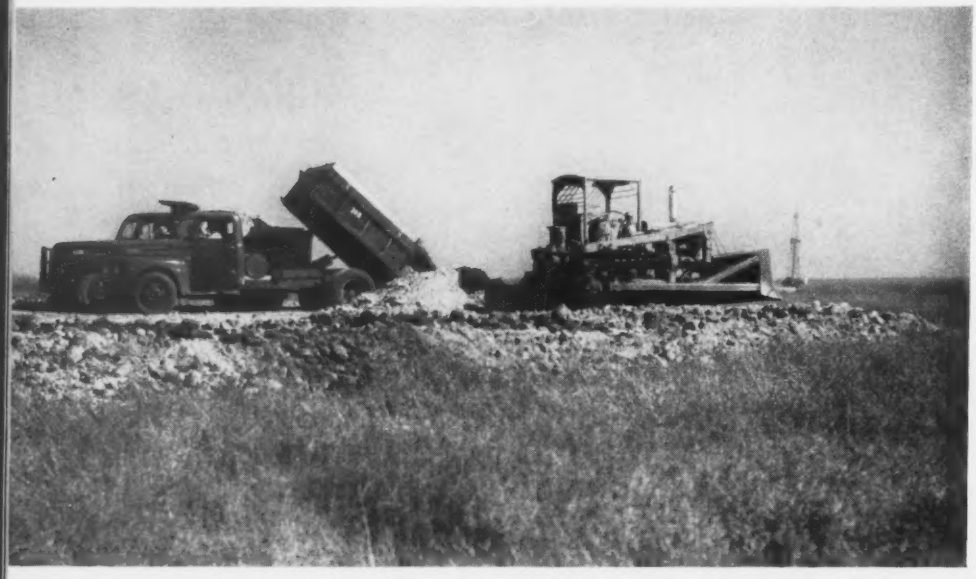
Humble engineers in Southwest Texas early this year used an unusual method for getting drilling machinery, supplies, and men in to a difficult wildcat site.

The site in question was the Fannye D. Wilson No. 1, in the marshy Nueces River estuary about 12 miles northwest of Corpus Christi. Northeast of the wildcat location lay shallow Nueces Bay; southwest, the Nueces River. The lowland would scarcely support the weight of a man, much less heavy trucks, and with high tide it often was under water.

From the east, a channel could be dredged across the Bay and a barge rig floated in to the location. But an overland trip of more than 35 miles was necessary to get equipment and supplies to the bay front, and no dock facilities were readily available.

From the south the overland distance from Corpus Christi was only 12 miles, making that approach appealing. The river could be spanned by a bridge, but the time element dictated fast action, and the cost of a 700-foot permanent bridge was not warranted by a wildcat venture. A permit for a permanent structure across the river could not be obtained in time to meet lease expiration dates. Then a pontoon bridge was considered. It would do the job, but would present a problem of keeping the stream open for the occasional fishing skiff.

Carrying three trucks per trip, the ferry reached a peak speed of 11 trips an hour, delivered an average of more than 1,100 yards of road material every day.



Heavy equipment smoothed the dirt and shell into a stable road five feet above the marsh; when the road was finished the ferry transported rig and equipment.

The solution came in the form of a small pontoon ferry, like those used by the Armed Services in World War II. Seven pontoons, each 33 feet long and eight feet wide, were joined together to form the base. Over these were laid parallel steel tracks to accommodate trucks. The steel tracks have flexible ends which slide upward on contact with timber ramps installed on both banks of the river, making a smooth connection between ferry and land.

Power to propel the ferry is supplied by a 10-horsepower motor. To keep the small craft on course against wind, current, or tide, a strong rope reaches out on each side to pulleys which roll on heavy steel cables swung across the river 10 feet above water level.

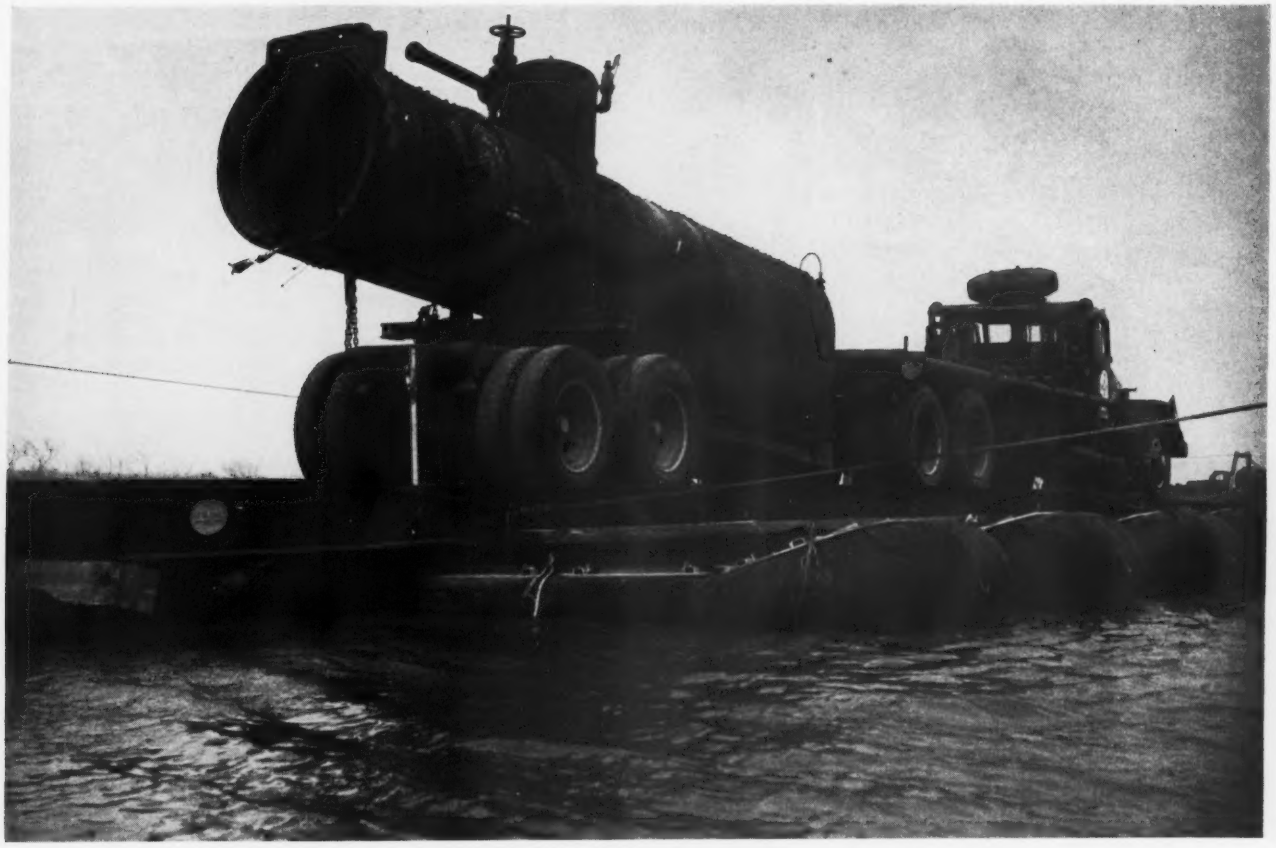
This unusual little vehicle made it possible to carry across the river dump trucks hauling dirt and shell to build more than a mile of road and to raise the level at the drilling site itself up to five feet above the marsh.

In this work the ferry surprised even the most hopeful. Carrying three fully loaded trucks per trip, it reached a speed which at peak operations enabled it to make 11 round trips an hour. Average daily delivery of about 1,150 cubic yards of road material made possible completion of the road and well site some two weeks ahead of the time limit.

Then came the real test—the big job of carrying the heavy trucks which brought in boilers, drawworks, derrick, and other drilling equipment. Taking them one at a time the ferry completed the whole job in two days without incident.

That done, the operator and his quaint craft settled back. The rush was over, the hard work done. For the next few weeks the ferry had to serve only in a routine way, doing the more prosaic job of transporting men, service trucks, and supplies while the crews pushed the wildcat down to its projected depth.

But if the ferry could express its views it might well report that here is another example why exploring for oil is expensive. For weeks it had taken part in an undertaking which obviously called for spending many thousands of dollars before it carried the equipment across so that drilling could be started.



Truck carrying boiler for the steam rig was handled by the pontoon ferry without difficulty, as were other heavy loads.

Rigging up at the drilling site (below) went forward as the small craft ferried equipment across. Note marshy terrain.

Lights stream all night from windows of this building, headquarters for operations when darkness settles over refinery. Here night superintendent and staff get requests from crews for directions on work in progress, study operating problems.

Night Superintendent

AT sundown, there is no closing shop and going home" at an oil refinery. People on the night shift put on the lights and keep working. For modern oil refining processes must run continuously, night and day.

There are many reasons why supervision is necessary at night, just as in the day. Units are "brought down" for repairs and placed back "on stream" at night, just as in the day. Things can, and do, go wrong at 3 a.m. as easily as they do at noon. Control over the delicate balance of supply and demand of oil at each unit is necessary at all times.

These are the responsibilities of the night superintendent, his staff, and the field foremen. It is the night superintendent who checks the work going on, sees that repairs are carried forward or completed, and coordinates the efforts of night crews that keep all units operating smoothly.

As he takes over, the superintendent quickly reviews operations to learn what has happened in his absence.

Telephone calls from operators at various units keep superintendent informed.

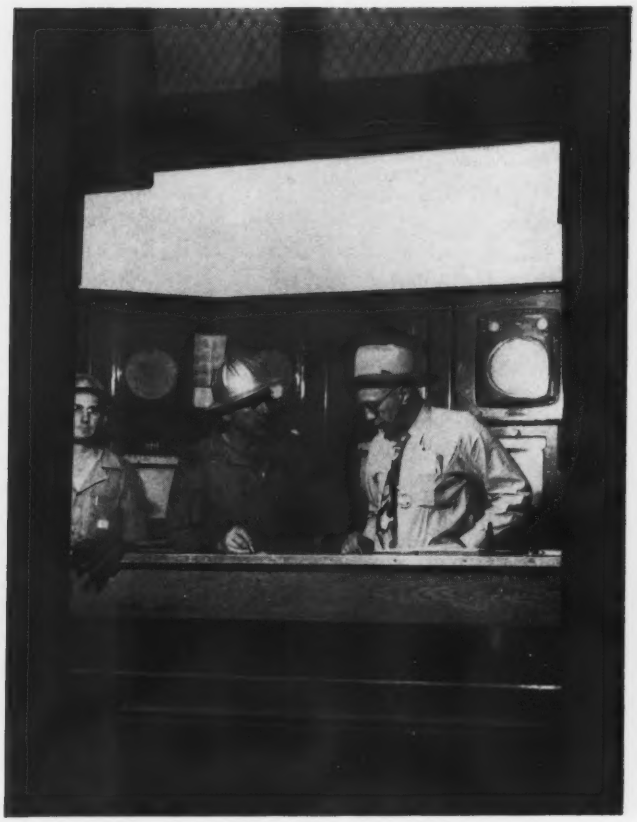
Then he and the assistant superintendent get in their cars and start visiting all of the 37 operating units spread over many acres.

After making the rounds, he and his assistant talk over refinery activities and check information received at the office.

In the words of refinery men, the superintendent has to be "all over the plant." He stops to watch an instrument man repair a meter at a unit. He visits a turnaround (general overhaul) of a major unit. He allocates the services of the night maintenance group to repair jobs. Throughout the night, he keeps moving around the refinery, consulting, inspecting, answering questions, and making decisions.

Because of these activities of the night superintendent and the efforts of his crews, the first rays of day cast their light on the giant refinery operating as smoothly as it did when the sun set.

Night superintendent checks with operator on a pump problem at one of the plant's distillation units. Below, he discusses product movements with assistant and loading rack operator.



In control room at a major unit he consults with the operator in charge on getting unit back "on stream." Below, he talks with a maintenance crew working to stop a leak in a line.

THEY HAVE RETIRED

TWENTY-SEVEN employees have retired since the last issue of THE HUMBLE WAY. All except two of these employees have more than twenty years' service with the Company.

Humble Pipe Line Company—Charles F. Alford, assistant to division superintendent in Panhandle District, retired April 1 after more than 31 years' service. Mr. Alford started to work with the Company as timekeeper and warehouseman. He is former president of Panhandle Chapter of API, and was for four years director of Mid-Continent District of API. On retirement he plans to move to Colorado.

Mack M. Brown, gate valve repairman in Longview District, retired March 11 after more than 17 years' service. He was employed at Chaney as a laborer and later worked as lineworker, engineer, pipeliner, watchman, and oiler. He plans to move on a small farm where he can have a cow, chickens, and vegetable garden.

Dan Burnett, pipeliner at Hull, retired April 4 after more than 17 years' service. All of his service with the Company has been spent at Hull and Beaumont. In retirement he plans to raise cattle and spend some time hunting and fishing.

Mack F. Choate, linerider in Odessa District, retired March 30 after more than 25 years' service. Mr. Choate worked as a linerider or linewalker during his entire service except for 15 days when he worked as an engineer. He intends to live with his son at Fredericksburg and travel some.

John H. Hayes, field engineer in McCamey District, retired April 1 after more than 24 years' service. His hobbies include fishing and working in the yard. On retirement he will help his brother operate a stock farm adjoining the famous Milky Way Farm in Giles County, Tennessee.

Walter A. Hodges, district gauger in Hull District, retired February 28 after more than 29 years' service. Mr. Hodges was employed at West Columbia as rotary helper. On retiring, he plans to catch up on his domino playing and fishing.

Alphus A. Michael, district clerk at Odessa District Office, retired February 23 after more than 21 years' service. He began work with Humble at McCamey as a warehouse clerk. He will live at his newly constructed home on the outskirts of Odessa where he plans to raise chickens and garden.

Ransome Owens, pipeliner in Harbor Island District, retired March 27 after more than 22 years' service. He started work for the Company at Ingleside as a pipeliner and later worked as linewalker, pipeliner, head chainman, and fireman-pumper. His hobbies include fishing and duck hunting. He intends to make his home at Aransas Pass on retirement.

Production Department—James R. Kelly, roustabout at Friendswood, retired March 5 after more than 21 years' service. Mr. Kelly began work with Humble at Hurdle. His special interests include raising hogs and chickens. He owns a home in Genoa where he plans to live on retirement.

Rufus M. Moore, roustabout at Vernon, retired March 7 after more than 25 years' service. He started to work for the Company as a laborer and later worked as a roustabout, roustabout gangpusher, driller, and farm boss. Mr. Moore enjoys all types of sports. He will remain in Vernon on retirement.

William M. Pond, driller at Stratton, retired March 1 after more than 23 years' service. All of Mr. Pond's career with the Company has been spent as driller. He drilled for oil in the Gulf Coast, East Texas, Louisiana, West and Southwest Texas. He intends to buy a small farm in Central Texas and keep a few chickens, cow, and small garden.

Edward R. Roebuck, lease pumpergauger at Gladewater, retired March 19 after more than 25 years' service. He was employed as helper. Although he spent most of his service at Gladewater, he worked at Wortham, Vernon, and Kilgore. He has built a home in James, Texas, where he plans to live.

Joe P. Thompson, truck driver at Stratton, retired March 25 after more than 30 years' service. Mr. Thompson began his service at Davis Hill as a teamster. He plans to build a new home on his farm near Orange.

Baytown Refinery—Richard A. Brame, helper third, retired January 1 after 23 years' service. His service has been spent in the Pipe Department and Cracking Coils. On retirement he plans to raise a few chickens and a garden at San Marcos.

Thomas C. Dent, rack foreman, retired March 3 after 30 years' service. He intends to travel, look after his outside interest, and maintain his home in Baytown.

Charley C. Fogarty, stillman first, retired December 31 after 30 years' service. During his employment with the Company, he worked in the Construction, Process, and Distillation Departments of the Refinery. He is interested in raising livestock and practicing law. On retirement he expects to build a home on his ranch at Buffalo, Texas.

Ed Good, blacksmith supervisor, retired March 29 after almost 25 years' service. His entire service with the Refinery was spent with the Blacksmith Shop. He includes among his special interests landscaping around his home.

Benjamin Guidry, helper first, retired January 23 after more than 28 years' service. He started his employment at the Refinery in the Labor Department. Fishing, gardening, and raising flowers are among his special interests.

John E. New, helper third, retired February 24 after more than 31 years' service. Mr. New worked in the Pipe Department, Boilermakers Department, Docks, Crude Stills, and Distillation Department. He will remain in Baytown.

Charlie L. Odneal, dockman, retired February 24, after more than 23 years' service. Before coming to work at Baytown Refinery in 1930, he worked at the McCamey Refinery. On retiring, he wants to buy a small place and keep a cow and small garden.

Ernest B. Salter, machinist first, retired January 22 after almost 23 years' service. Mr. Salter worked in the Machine Shop during his entire employment with the Company.

Employees Recently Called to Military Service

AIR FORCE

Albers, Ernest R., Jr.	Land Records & Rentals, Houston
Barker, Russell Glen	Baytown Refinery
Berg, Alvin O., Jr.	Baytown Refinery
Blystone, Morris D.	Baytown Refinery
Brown, Richard Lee	Production Accounting, Houston
Bryan, Austin R.	Land Records & Rentals, Houston
Butler, Douglas Ray	Baytown Refinery
Cecil, Boyd Allen	Southwest Texas Division Sales
Combs, John Richard	Baytown Refinery
Davis, Alston Lee	Stationery, Houston
Evans, Charles R., Jr.	Pipe Line Production Contamination & Statistical, Houston
Ferguson, Stump A., Jr.	Production Accounting, Houston
Fitch, Neville Cooper	Sales Accounting, Houston
Foster, Walter Edmund	Production Accounting, Houston
Harshbarger, E. L., Jr.	Exploration-Geophysics
Hester, Jack Grady	Baytown Refinery
Keener, Billy Jack	Special Products Manufacturing, Sales
Kirchner, August Oswald	Production Accounting, Houston
Lyon, John Calvin	Baytown Refinery
Morrison, James C.	Purchasing, Houston
Orsak, Lewis Carl	Katy Gas Cycling Plant
Radney, Ray Roe	Civil Engineering
Richards, James Melvin, Jr.	Baytown Refinery
Rowland, Everett Hayden, Jr.	San Antonio Bulk Station
Smith, Ralph Lloyd	Harbor Island, Pipe Line
Stevens, Thomas Lee	Conroe Production
Stubblefield, Steven Oscar	Jourdanton Gas Plant Construction
Watts, Ernest Mohler	Production Accounting, Houston
Whitley, Chester Perry	Kingsville Bulk Station, Sales
Whitten, James Callen	Telegraph, Pipe Line
Willhelm, Ernest V., Jr.	Production Accounting, Houston

ARMY

Abrahams, James Wayne	Stationery, Printing, Houston
Adams, Chris Everett	Thompsons Production
Ashley, Fred James	Exploration-Geophysics
Bailey, Russel Neal	Baytown Refinery
Baucum, Kenneth D.	Friendswood Production
Boudreaux, Alfred, Jr.	Bayou Sale Production
Burns, Cecil Harris	Wasson Production
Challie, Harry N.	Crude Oil Accounting, Houston
Chataignier, Alton	Bayou Sale Production
Clemons, Harold Wm.	Exploration-Geophysics
Clifton, Percy Lee	Bayou Sale Production
Cloessner, Isaac B., Jr.	Southwest Texas Div. Field, Pipe Line
Copeland, William H.	Crude Oil Accounting, Houston
Craig, Travis, Jr.	Baytown Refinery
Craig, Truman Ray	Stationery, Printing, Houston
Dalious, Jack A.	Claim & Right of Way
DeCoster, George Emil Louis	Exploration-Geologic
Dean, James V., Jr.	Petroleum Engineering, Houston
Dodson, Alfred C., Jr.	Treasury, Houston
Dunman, Jack Bevil	Anahuac Gas Plant
Ellis, Earl Gary	Exploration-Geophysics
Farquhar, Don Allen	Exploration-Geologic
Favron, Vernon Ray	Grand Isle Production
Garrot, Floyd Elmo	London Production
George, Bower Byrd	Stationery, Printing, Houston
Goode, Robert Clyde	Stratton Production
Graham, Kenneth Craig	Treasury, Houston
Griffin, Lewis Dale	Exploration-Geologic
Hagan, Denton Pierce	Mail Room, Houston
Henkhaus, Driscoll A.	Exploration-Geophysics, Louisiana
Hitt, William James	Traffic Bureau
Hudgins, Virgil E.	Baytown Refinery
Hurbrough, William B.	Treasury, Houston
Hurst, Thomas Norman	Galveston Bay Production
Jones, Marion Gene	Friendswood Production
Jones, Phil	Katy Gas Cycling Plant
Kader, John	Sales, Baytown
Kessinger, Harry Joe	Exploration-Geologic
Kinsey, Lewis Milton	Stratton Production
Lamonica, Joseph	Stationery, Printing, Houston
Ludwick, Eugene H.	Land Records & Rentals, Houston
Luther, Norman W., Jr.	Special Products Manufacturing Plant
McKernan, Walter W.	Petroleum Engineering
Martin, Marion Cornelious	Baytown Refinery
Matherne, Eddie Fay	Exploration-Geophysics
Matthews, Lester Maurice	Corpus Christi Bulk Station, Sales
Mayr, Milton Norman	Exploration-Geophysics
Miller, Calvin Loren	Katy Production
Miller, Noel Ray	Production Accounting, Houston
Mitchell, Harley Troy	Wasson Production
Parrott, James Leonard	Hull Pipe Line
Peterson, Donald Earl	Bayou Sale Production
Phillips, Bobbie Joe	Pickton Gasoline Plant
Piwetz, Elwood James	Production Accounting, Houston
Platzer, Frank Glenn	Crude Ail Accounting, Houston
Ray, J. W.	Katy Gas Cycling Plant
Reed, Charles Edward	Grand Isle Production
Reyes, Pedro	Baytown Refinery
Roach, Louie Max	Production Accounting, Houston
Roberts, Walter L.	Baytown Refinery
Slagle, Charley E.	Baytown Refinery
Smith, Robert Charles	Stationery, Houston
Smolik, Johnny George	Sales Accounting, Houston
Spanel, Albert	Exploration-Geologic
Steinhagen, L. W., Jr.	Production Accounting, Houston
Stern, Arnold Irving	Baytown Refinery
Stratton, Charles W.	Baytown Refinery
Tampke, James Louis	Imogene Production
Theall, Frank Leonard	Exploration-Geologic
Wallis, Wilson Earl	Exploration-Geologic
Wappler, Alvin Harris	Anahuac Production
Webb, Donald Edward	Odessa Production
Weiss, Edwin Roy	Friendswood Production
Williams, Clyde Elton	Exploration-Geologic
Wilson, James Bennie	Tomball Natural Gas System
Woodall, Mitchell G.	Bayou Sale Production
Wright, Claude Elton	Comptrollers, Houston
Young, Otis Wingo	Grand Isle Production
Zamora, Carlos A.	Baytown Refinery

NAVY

Archer, Robert Harsha	Baytown Refinery
Baldree, Jack Neal	Pipe Line Treasury, Houston
Barr, Billy Joe	Scott & Hopper Production
Bezner Hubert P.	East Texas Division Office, Production
Cooper, James Winstead	Louisiana Division Office, Production
Edwards, Guy Taylor	Baytown, Sales
Haley, Charles Jack	Exploration-Geophysics, Miss.
Harrell, Elton Wilson	Baytown Refinery
Hays, Gerald Albert	Baytown Refinery
Holloway, Joseph F.	Stratton Production
Lambrecht, Marilyn Fern	Baytown Refinery
Mueller, Thomas J.	Treasury, Houston
Parrish, Calvin Daws	Baytown Refinery
Phillips, Gilbert	Baytown Refinery
Oliver, Ray Bartley	Thompsons Production
Schweitzer, William H.	Baytown Refinery
Singletary, George D.	Treasury, Houston
Suter, Charles Abram	Snyder Production
Tomasek, Charles Fred	Stationery, Printing, Houston
Treat, Joe Stevens	Baytown Refinery
Wilson, John Joseph	Bayou Sale Production

MARINES

Anderson, James W.	Production Accounting, Houston
Bush, Howard Emil, Jr.	Production Civil Engineering, Houston
Clemons, Jess Ray, Jr.	Exploration-Geophysics
Elliott, Everett Eugene	Hawkins Production
Gulley, James L., Jr.	Exploration-Geophysics
Hand, Lawrence Wayne	Baytown Refinery
Kennedy, Eldon F.	Cisco District Office, Pipe Line
McGee, Franklin Jack	Baytown Refinery
Martin, Henry Woods	Louisiana Division Office, Production
Mitchell, Levie J., Jr.	Baytown Refinery
Nix, Archie Lee	Stratton Production
Rundell, John Lyman, Jr.	Production Accounting, Houston
Sears, Redford Davis	Odessa Production
Singleton, Cecil R.	Baytown Refinery
Tanner, Glen H., Jr.	Bayou Sale Production
Thompson, Charles V.	Houston Products Terminal
Tom, William Brandon, Jr.	Pipe Line Ingleside Station
Touchet, Emery John	Baytown Refinery

Sales Department—Milton L. Laughlin, watchman at the Houston Bulk Station, retired November 16 after more than 31 years' service. He was employed as a truck driver and later worked as pumper, repairman, and night watchman. He plans to move to East Texas.

Houston Office—James B. Arthur, building manager in Building Maintenance, retired February 4 after more than 21 years' service.

By the way . . .

Humble President Wins Freedoms Foundation Medal

HINES H. BAKER, president of Humble Oil & Refining Co., has been awarded a 1950 Freedoms Foundation Honor Medal for his commencement address, "The Individual in Society," delivered last year at Texas Western College, El Paso.

Freedoms Foundation, with headquarters at historic Valley Forge, was established in 1949 for the purpose of making awards to Americans who make outstanding contributions to a better understanding of freedom by the things they write, do, or say.

Awards are made by a distinguished jury composed of State Supreme Court Jurists and executive officers of national patriotic and service organizations. Chairman of the awards jury is Dr. Milton S. Eisenhower, brother of General Dwight D. Eisenhower and President of Pennsylvania State College. The basis for all judging is the official credo of Freedoms Foundation, which defines the American Way of Life as an indivisible bundle of economic and political freedoms as set forth in the Constitution and Bill of Rights, based in turn on a fundamental belief in God.

In the address which won him the Honor Medal, Mr. Baker emphasized the paramount importance of the individual man, pointing out that a democracy is dedicated to the protection of individual personal liberties and rights. He underscored the great progress—social, economic, and political—that America has made under a system in which government is the servant, not the master, of the people.

(Continued from Page 23)

Robert B. Cooper, chief landman in the Geological Lease and Scouting Division, retired January 30 after more than 31 years' service. He started to work with Humble at West Columbia as a roughneck; in 1928 the Company named him chief landman. After April, 1936, because of injuries suffered in an automobile accident, Mr. Cooper was forced to be less active in some phases of the duties of the landman. During his service, he took an important part in helping the Company acquire valuable properties in Salt Flat, Sugarland, Friendswood, East Texas, and many other oil fields. In retirement he and Mrs. Cooper plan to travel, visit friends, and fish.

Deaths

SINCE the last issue of THE HUMBLE WAY, 14 active employees and five annuitants have died.

Active employees who have died are: John W. Cook, 33, auto and boat mechanic first at Stratton, on March 31; Calvin H. Corrie, 62, witness gauger at London, on March 4; Roland L. Haining, 54, oiler at Hearne Station, on February 20; Fred M. Hughes, 55, senior accountant in General Accounts Houston Office, on March 17; William B. Irons, 52, helper first at Baytown Refinery, on March 6; James R. Masterson, 58, senior civil engineer in Production Department Gulf Coast Division Office, on March 29; Hubbert L. Murphey, 58, district salesman in the Southwest Texas Division Office, on March 3; Shirley D. Rinck, 25, steno-special in Exploration-Geologic at New Orleans, on February 15; Roy Russell, Jr., 28, transport operator at Irving Products Terminal, on March 2; Clarence I. Tullos, 43, lease pumper-gauger at Livingston, on March 1; Miller Voss, 58, division chief clerk in Humble Pipe Line Company Houston Office, on April 3; J. W. Walker, Jr., 24, helper at Baytown Refinery, on March 13; Claud L. Williams, 48, roustabout gang pusher at Avoca District, on March 26; Francis E. Youngblood, 37, rotary helper at Stratton, on March 31.

Annuitants: Columbus Morgan, 56, janitor at Baytown Refinery before his retirement, died on February 17; James A. Portis, Sr., 68, compressor maintenance man at Baytown Refinery before his retirement, died on February 17; Porter B. Rawson, 75, machine helper at Baytown Refinery before his retirement, died on February 25; Clarence A. Shockey, 60, engineer main line in Cisco District before his retirement, died on March 22; Emil Voytek, 58, boilermaker at Baytown Refinery before his retirement, died on March 7.

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HUMBLE OIL & REFINING COMPANY

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The Cover painting by E. M. Schiwetz, showing fishing boats circling the light at the end of Galveston jetty, accompanies his Galveston portfolio, pages 9 through 16.

Dramatic shot of powerful Rig 32, on a wildcat location in the Panhandle of Texas

HUMBLE
RIG
32

You'll have oil!

The oil industry is better prepared than ever before in history to supply the country's needs for petroleum products. Continuous exploration and development have established the necessary reserves, refining capacity has been increased, transportation facilities have been improved and extended.

Operating competitively in free America, the oil companies have brought U. S. oil resources to a state of readiness not equalled in any other country.

In the past year, the daily needs of the American people plus the extra needs of national defense increased the demand for oil by about a half-million barrels daily. It was produced at once. Cars and trucks continued to roll, farmers' equipment stayed in the fields, industries powered by oil continued to operate; not an airplane was grounded, not a ship stayed in port, for lack of fuel.

Nevertheless, the industry recognizes that all-out defense preparations will pose many new problems; that some petroleum products may be reduced in quality; that some sacrifices may become necessary.

But the oil is here; it's available. You'll have oil.

HUMBLE OIL & REFINING COMPANY